# CUMULATIVE AUTHOR INDEX
## *Annals of the Entomological Society of America*
## Volume 106, 2013


A

Abe, Y., 18, 288
Abell, K. J., 541
Abrahão, J., 846
Acurio, A., 695
Almaraz-Almaraz, M. E., 753
Appel, A. G., 323
Arakawa, T., 122
Arcella, T., 59
Athanassiou, C. G., 294
Auad, A. M., 243

B

Babba, H., 79
Backus, E. A., 524
Bardunias, P., 771
Barrion, A. T., 100
Beattie, A. J., 53
Beaulieu, F., 339
Bentz, B. J., 385
Bernard, E. C., 673
Bernardo, U., 437
Bertin, A., 604
Blosser, E. M., 810
Bortoli, L. C., 604
Botton, M., 604
Boudabous, R., 79
Bracewell, R. R., 385
Brogan, R. S., 799
Brown, B. V., 310, 401
Bundy, C. S., 575

C

Caro, E.B.A., 93
Carvalho, L.P.C., 463
Castrejón-Gómez, V. R., 510
Céspedes, D., 695
Chaara, D., 79
Chai, C. L., 503
Chakrabarti, S., 771
Chang, J.-C., 359
Chapman, P. S., 410
Chen, Y. H., 100
Cheng, J., 378
Cheng, J.-A., 626
Cherry, R., 524
Chi, H., 279
Chouvenc, T., 619, 771
Cogun, H. Y., 371
Cole, B. J., 72
Coleman, T. W., 189
Colvin, S. M., 214
Conte, H., 846
Cook, J. L., 313
Cooper, W. R., 86
Coskun, M., 371
Cuong, N. L., 100

D

Daane, K. M., 351, 471
Da Cruz Canevari, G., 273
Dai, F. Y., 503
Dalton, D. T., 471
De Bortoli, S. A., 235
De Castro, A. A., 273
Dedet, J. P., 79
De Jesus Andrade, C.G.T., 643
Delgado, L., 424
Del Vas, M., 93
De Miranda, M. P., 610
Demiris, N., 228
De Oliveira Bernardi, L. F., 788
Depaquit, J., 79
De Sousa, G., 846
Dewaard, J. R., 143
Diaz, R., 491
Díaz-Montilla, A. E., 586
Dong, Z. P., 503
Dumón, A. D., 93
Dursun, O., 371
Dutra, V. S., 13

E

Eberhard, W. G., 652
Ebrahimi, M., 279
Efstathion, C. A., 771
Egan, S. P., 59
Elkinton, J. S., 143
Elliott, M. L., 771
Emre, I., 371
Equihua-Martínez, A., 26
Estrada-Venegas, E., 26

F

Feder, J. L., 59
Fereres, A., 610
Ferreira, R. L., 788
Ferrer-Suay, M., 26
Flint, M. L., 189
Fonseca, M. G., 243
Forbes, A. A., 818
Forbes, M. R., 339
Fox, C. W., 128
Fu, B.-X., 626
Fujiyama, N., 741
Funk, D. J., 818

G

Gallego-Sánchez, G., 586
Gao, W., 637
Gebiola, M., 437
Geib, S. M., 684
Giblin-Davis, R., 771
Gómez, R. A., 1
Gomez Rolim, A.A.S., 643
Gong, Z.-J., 378
Gonzaga-Segura, J., 510
Gonzalez, V. H., 853
Gonçcalves, R. S., 791
Gorcii, M., 79
Goughnour, R. B., 59
Goulart, R. M., 235
Grützmacher, A. D., 791
Gwiazdowski, R. A., 143

H

Haavik, L. J., 189
Hajiqanbar, H., 181
Hall, C. L., 661
Hall, D. G., 392
Haouas, N., 79
Hartini, S., 741
Hash, J. M., 401
Háva, J., 555
Heatherington, E. M., 392
Henderson, G., 454
Hill, K.B.R., 598
Hilton, R. J., 471
Hoggard, S. J., 53
Hojo, M. K., 761
Hong, J., 626
Hood, G. R., 59
Howard, D. R., 661
Hu, X. P., 323
Hu, Y.-F., 265
Huang, Y.-J., 378

I

Ide, T., 18, 288
Ito, K., 122
Ivanović, A., 170

J

Jang, E. B., 136
Janković, M., 294
Jaouadi, K., 79
Japoshvili, G., 541
Jaroszewicz, S., 706
Jones, V. P., 485
Jose, M. S., 684

K

Kadej, M., 555, 706
Kadono-Okuda, K., 122
Kahono, S., 741

Kaiser, C., 471
Kanao, T., 401
Katakura, H., 741
Katayama, N., 761
Kavallieratos, N. G., 294
Kavousi, A., 279
Kayis, T., 371
Kidar, A., 79
Kidokoro, K., 122
Klompen, H., 788
Knee, W., 339
Kobayashi, N., 741
Kok, L. T., 249
Kontodimas, D. C., 228

L
Lamb, A. B., 249
Langellotto, G. A., 100
Layne, Jr. J. R., 840
Leblanc, L., 684
Lee, C.-F., 152
Leite, G.L.D., 164
León-Cortés, J. L., 753
Levy, K., 351
Li, X.-Y., 562
Li, Y., 637
Liang, Q.-M., 378
Lisbôa, H., 791
Liu, S., 378
Lomeli-Flores, R., 26
Lopes, J.R.S., 610
Lopes, S. A., 610
Lounibos, L. P., 810
Lu, C., 503
Lu, Cheng, 265
Lubertazzi, D., 72
Lucia, M., 853

M
Mankin, R. W., 392
Manoukis, N. C., 136
Maroniche, G. A., 93
Marshall, D. C., 598
Martínez, L. C., 164
Martínez, R. P., 26
Martins, G. F., 857
Martinson, H. M., 47
Mason, A. C., 661
Masuko, K., 479
Matavelli, C., 779
Matsinos, Y. G., 228
Matsubayashi, K. W., 741
Mcauslane, H. J., 524
Mccullough, E. L., 518
McPherson, J. E., 575
Medianero, E., 719
Meng, Q., 637
Menocal, O., 491
Messina, F. J., 128
Miller, K. B., 1
Milonas, P. G., 228
Mitrović, M., 170
Mitrovski-Bogdanović, A., 170
Miyamaoto, M., 447
Mock, K. E., 385
Molina-Martínez, A., 753
Monteiro, P. H., 243
Montemayor, C., 491
Mora-Aguilar, E. F., 424
Morris, B. D., 128
Moser, J. C., 204

N
Nalepa, C. A., 111
Nava, D. E., 791
Nicholson, S. J., 86
Nieves-Aldrey, J. L., 719
Nishimura, N., 810
Noda, H., 122
Normark, B. B., 541

O
Ohgushi, T., 761
Otuka, A. K., 235
Overholt, W. A., 491

P
Padhi, A., 661
Paiero, S. M., 111
Pan, C., 265
Pan, M. H., 265, 503
Papanikolaou, N. E., 228
Paris, T. M., 392
Parra, J.R.P., 604
Pascini, T. V., 857
Pereira, H. C., 791
Petrović, A., 170, 294
Pfammatter, J. A., 204
Pfrender, M. E., 385
Pikart, T. G., 273
Pitts, J. P., 429
Plata-Rueda, A., 164
Powell, T.H.Q., 59
Pratlong, F., 79
Pujade-Villar, J., 26, 437
Puterka, G. J., 86

Q
Qiao, F., 378
Quiroga, M. A., 222

R
Rafael, V., 695
Raffa, K. F., 204
Ramalho-Ortigão, J. M., 857
Ramasamy, S., 359
Rangasamy, M., 524
Raupp, M. J., 47
Reboreda, J. C., 222
Resende, T. T., 243
Ribeiro, R. C., 273
Rivers, D. B., 799
Robich, S. R., 840
Rodríguez, P. A., 719
Roehrdanz, R. L., 329
Rohde, B., 392
Ronchi-Teles, B., 13
Rong, N.-H., 626
Roque, F., 117
Rubinoff, D., 684
Ruiz, A., 695

S
Sagadín, M. B., 93
Sahragard, A., 279
Saint-Jean, G., 59
Saldamando-Benjumea, C. I., 586
Salom, S. M., 249
Santos, D. R., 243
Schaefer, C. W., 278, 670
Scheifele, L. Z., 799
Scudeler, E. L., 846
Selfa, J., 26
Serrão, J. E., 164, 273
Seybold, S. J., 189
Sheets, H. D., 410
Shiyake, S., 249
Shrewsbury, P. M., 47
Shrubovych, J., 673
Silva, F. S., 463
Silva, J. G., 13
Sim, S. B., 59
Sima, Y.-H., 832
Skarżyński, D., 42
Smith, P. T., 401
Smith, R. J., 661
Smolis, A., 42
Snyder, J. C., 214
Solodovnikov, A., 562
Song, J., 265
Sosa-Gómez, D. R., 643
Specht, A., 643
Sremac, M., 143
Stamm, M., 524
Starý, P., 170, 294
Steck, G. J., 13
Stow, A. J., 53
Su, N.-Y., 619, 771
Suárez-Baron, H. G., 586
Sweeney, J., 637
Swink, W. G., 111

T
Talaei-Hassanloui, R., 279
Tanaka, S., 66
Tarnawski, D., 706
Tauber, C. A., 729
Tauber, M. J., 729
Thacker, R., 214
Thompson, C. R., 799
Tidon, R., 117
Tohme, J., 586
Tomanović, Z., 170, 294
Tribull, C. M., 313

Truol, G., 93
Tsuchida, T., 761

U

Ueno, H., 741

V

Vacari, A. M., 235
Valdéz-Carrasco, J., 510
Valgas, R. A., 791
Vallejo, F., 424
Van Driesche, R. G., 541
Veiga, A.C.P., 235
Venette, R. C., 189
Verble, R. M., 198
Vessels, H. K., 575
Vieira, L. C., 249
Viggiani, G., 437
Villada, E. S., 610
Von Zuben, C. J. 779
Volpe, H.X.L., 235
Vorburger, C., 170
Votruba, P., 152

W

Wachi, N., 18, 288
Walton, V. M., 471
Wang, C., 454
Wang, W., 503
Wang, X.-G., 351
Watanabe, H., 447
Wichmann, S.G.S., 329
Wiernasz, D. C., 72
Williams, K. A., 429
Wilson, P. D., 53
Wiman, N. G., 485
Wu, H., 323

X

Xiao, Z., 437
Xing, L., 619
Xu, C.C.Y., 59
Xu, S.-Q., 832
Xu, W., 265

Y

Yamane, T., 258
Yano, E., 447
Yano, S.A.C., 643
Yanoviak, S. P., 198
Yeargan, K. V., 214
Yee, W., 59
Yee, W. L., 410
Yi, H.-S., 265
Yovkova, M., 294
Yuan, H.-X., 832
Yukuhiro, F., 122

Z

Zanuncio, J. C., 164, 273
Zanuncio, T. V., 273
Zara, F. J., 779
Zhang, C.-X., 626
Zhang, J.-Y., 265
Zhao, Q., 66
Zhou, H.-Z., 562
Zhou, W.-W., 378
Zhu, C.-D., 437
Zhu, D.-H., 66
Zhu, Z.-R., 378, 626
Zikić, V., 170
Zinna, R. A., 518

# CUMULATIVE KEY WORD INDEX
## *Annals of the Entomological Society of America*
## Volume 106, 2013


A

abundance,
Arkansas, 198
community, 198
disturbance, 198
fire, 198
accessory gland, 66, 258
fecundity, 66
hatchability, 66
mating behavior, 66
Miridae, 258
preovipositional period, 66
remating inhibition, 258
seminal fluid, 258
ultrafiltration, 258
adaptation,
bark beetle, 385
life-history, 385
mountain pine beetle, 385
speciation, 385
*Adelges tsugae*,
Japan, 249
*Laricobius osakensis*, 249
phenology, 249
synchrony, 249
adult preference,
genetic divergence, 741
geographical distribution, 741
host race, 741
larval performance, 741
aeropyle,
chorion ornamentation, 13
fruit fly, 13
micropyle, 13
aggregation,
bacterium, 799
calliphorid, 799
carrion, 799
larva, 799
*Agrilus*,
biosurveillance, 111
emerald ash borer, 111
foraging, 111
Hymenoptera, 111
aid,
*Coptotermes formosanus*, 619
ecdysis, 619
molting behavior, 619
nestmate, 619
alimentary canal,
chitinous teeth, 846
foregut, 846
stomodeal valve, 846
*Alloxysta*,
Charipinae, 26
Figitidae, 26
Mexico, 26
*Phaenoglyphis*, 26
Andes mountain range,
genetic differentiation, 586
haplotype, 586
host race, 586
tomato fruit borer, 586
*Andrioplecta pulverula*,
Cynipidae, 437
*Dryocosmus kuriphilus*, 437
gall wasp, 437
new species, 437
*Anevrina*,
Baltic amber, 310
Diptera, 310
new species, 310
Phoridae, 310
*Anopheles*,
mosquito, 857
reproductive system, 857
spermatheca, 857
ant,
parthenogenesis, 479
*Strumigenys hexamera*, 479
thelytoky, 479
antagonistic bacteria,
*Bacillus thuringiensis*, 454
*Coptotermes formosanus*, 454
group size, 454
suppression, 454
antennal sensilla/sensillum,
biofuel, 510
development, 626
Fulgoroidea, 626
*Jatropha curcas*, 510
*Laodelphax striatellus*, 626
leaf-footed bug, 510
pest, 510
scanning electron microscopy, 626
Anthophila,
carpenter bee, 853
Paraguay, 853
*Anthrenus*,
Dermestidae, 706
exuvia, 706
immature stage, 706
seta, 706
antimicrobial,
evolution, 53
microsatellite, 53
*Polistes*, 53
sociality, 53
antioxidant enzyme,
cadmium, 371
energy reserve, 371
*Galleria mellonella*, 371
malondialdehyde, 371
ant-plant interaction,
facilitation, 47
feeding wound, 47
*Halyomorpha halys*, 47
invasion ecology, 47
Aphidiinae,
herbs, 294
ornamental, 294
shrubs, 294
southeastern Europe, 294
aphid parasitoids,
*Aphis sambuci*, 170
host specialization, 170
*Longicaudus trirhodus*, 170
*Praon longicaudus* sp.n., 170
*Praon sambuci* sp.n., 170
*Aphis craccivora*,
*Arsenophonus*, 761
endosymbiont, 761
honeydew, 761
mutualism, 761
*Aphis fabae*,
development, 228
fecundity, 228
*Propylea quatuordecimpunctata*, 228
temperature, 228
*Aphis nerii*,
*Asclepias*, 214
cardenolide, 214
*Cynanchum laeve*, 214
honeyvine milkweed, 214
*Aphis sambuci*,
aphid parasitoids, 170
host specialization, 170
*Longicaudus trirhodus*, 170
*Praon longicaudus* sp.n., 170
*Praon sambuci* sp.n., 170
apoptosis,
*BmDronc*, 265
BmE cell line, 265
caspase-9, 265
silkworm, 265
apple maggot fly, 59, 410
black hawthorn, 59
English hawthorn, 59
geometric morphometrics, 410
hybridization, 410
red hawthorn, 59

surstylus shape, 410
wing shape, 410
*Aprostocetus*,
*Baryscapus*, 818
*Conura*, 818
*Gelis*, 818
*Scambus*, 818
Arkansas,
abundance, 198
community, 198
disturbance, 198
fire, 198
arrestin,
developmental expression, 359
G-protein-coupled receptor, 359
*Maruca vitrata*, 359
phylogenetic relationship, 359
*Arsenophonus*,
*Aphis craccivora*, 761
endosymbiont, 761
honeydew, 761
mutualism, 761
*Asclepias*,
*Aphis nerii*, 214
cardenolide, 214
*Cynanchum laeve*, 214
honeyvine milkweed, 214
Asia,
evergreen tree, 18
Fagaceae, 18
oak gall wasp, 18
species richness, 18
Asian citrus psyllid,
citrus greening disease, 392
communication, 392
Asopinae,
biological control, 235
Brassicaceae, 235
insect biology, 235
predatory stink bug, 235
*attenuata* species group,
Helotidae, 152
*Neohelota*, 152
taxonomic revision, 152
attraction,
automatic detection, 136
diurnal cycle, 136
pheromone, 136
tephritid, 136
autoecology,
Chinantla, 753
cloud forest, 753
conservation, 753
endemic, 753
autogeny,
*Corethrella appendiculata*, 810
life history, 810
plasticity, 810
threshold, 810
automatic detection,
attraction, 136
diurnal cycle, 136
pheromone, 136
tephritid, 136

B

*B. invadens*,
*Bactrocera dorsalis*, 684
Diptera, 684
invasive species, 684
Tephritidae, 684
*Bacillus thuringiensis*,
antagonistic bacteria, 454
*Coptotermes formosanus*, 454
group size, 454
suppression, 454
bacterium,
aggregation, 799
calliphorid, 799
carrion, 799
larva, 799
*Bactrocera dorsalis*,
*B. invadens*, 684
Diptera, 684
invasive species, 684
Tephritidae, 684
Baltic amber,
*Anevrina*, 310
Diptera, 310
new species, 310
Phoridae, 310
bark beetle, 204, 339, 385
adaptation, 385
*Dendrolaelaps quadrisetus*, 204
*Histiostoma*, 204
host specificity, 339
*Iponemus confusus*, 204
life-history, 385
Mesostigmata, 339
mountain pine beetle, 385
Oribatida, 339
phoresy, 204
speciation, 385
species composition, 339
*Baryscapus*,
*Aprostocetus*, 818
*Conura*, 818
*Gelis*, 818
*Scambus*, 818
*Berchmansus cinctipes*,
Chrysopidae, 729
Leucochrysini, 729
Neuroptera, 729
trash-carrying, 729
bioacoustics,
burying beetle, 661
*Nicrophorus*, 661
sound production, 661
stridulation, 661
biodiversity,
biogeography, 100
cultivation, 100
domestication, 100
wild crop relative, 100
biofuel,
antennal sensillum, 510
*Jatropha curcas*, 510
leaf-footed bug, 510
pest, 510
biogeography, 100, 288, 719
biodiversity, 100
cultivation, 100
domestication, 100
gall wasp, 288, 719
phylogeny, 719
Rosaceae, 288, 719
Rubus, 719
wild crop relative, 100
biological aspect,
forage grass, 243
predator, 243
*Sipha flava*, 243
Y-tube olfactometer, 243
biological control, 235, 273, 351, 791
Asopinae, 235
Brassicaceae, 235
fruit fly, 791
insect biology, 235
natural enemy, 273
new host association, 351
parasitism, 791
parasitoid, 791
parasitoid biology, 351
predatory stink bug, 235
pupal parasitoid, 351
salivary gland, 273
*Supputius cincticeps*, 273
zoophytophagous, 273
biosurveillance,
*Agrilus*, 111
emerald ash borer, 111
foraging, 111
Hymenoptera, 111
black hawthorn,
apple maggot fly, 59
English hawthorn, 59
red hawthorn, 59
*Blissus*,
EPG, 524
feeding, 524
Insecta, 524
stylet penetration, 524
bloodmeal,
leishmaniasis foci, 79
Phlebotomine, 79
PNOC, 79
*Sergentomyia minuta*, 79
*BmDronc*,
apoptosis, 265
BmE cell line, 265

caspase-9, 265
silkworm, 265
BmE cell line,
apoptosis, 265
*BmDronc*, 265
caspase-9, 265
silkworm, 265
*BmSCRBQ1*,
*Bombyx mori*, 503
*Cameo1*, 503
class B scavenger receptor, 503
gene expression, 503
*Bombyx mori*, 122, 503, 832
*BmSCRBQ1*, 503
*Cameo1*, 503
class B scavenger receptor, 503
developmental inhibition, 122
4-n-nonylphenol, 832
gene expression, 503
glutathione, 832
glutathione peroxidase, 832
glutathione S-transferase, 832
iminoctadine, 122
intoxication, 122
bootstrap,
demography, 280
jackknife, 280
offspring sex ratio, 280
parasitism rate, 280
bot fly,
*Philornis seguyi*, 222
sexual difference, 222
*Troglodytes aedon*, 222
Brassicaceae,
Asopinae, 235
biological control, 235
insect biology, 235
predatory stink bug, 235
Brazil,
Brazilian Savannah, 463
*Culicoides insignis*, 463
*Culicoides paraensis*, 463
Maranhão, 463
Brazilian Savannah,
Brazil, 463
*Culicoides insignis*, 463
*Culicoides paraensis*, 463
Maranhão, 463
Brooks–Dyar rule,
instar, 323
model based clustering, 323
burrowing water beetle,
morphology, 1
Neotropical, 1
taxonomy, 1
burying beetle,
bioacoustics, 661
*Nicrophorus*, 661
sound production, 661
stridulation, 661

C

cadmium,
antioxidant enzyme, 371
energy reserve, 371
*Galleria mellonella*, 371
malondialdehyde, 371
calliphorid,
aggregation, 799
bacterium, 799
carrion, 799
larva, 799
*Callosobruchus maculatus*,
fecundity, 128
genetic load, 128
inbreeding depression, 128
oviposition, 128
*Cameo1*,
*BmSCRBQ1*, 503
*Bombyx mori*, 503
class B scavenger receptor, 503
gene expression, 503
cardenolide,
*Aphis nerii*, 214
*Asclepias*, 214
*Cynanchum laeve*, 214
honeyvine milkweed, 214
carpenter bee,
Anthophila, 853
Paraguay, 853
carrion,
aggregation, 799
bacterium, 799
calliphorid, 799
larva, 799
caspase-9,
apoptosis, 265
*BmDronc*, 265
BmE cell line, 265
silkworm, 265
Cassidinae,
fruit scraper, 164
oil palm, 164
scanning electron microscopy, 164
sex dimorphism, 164
catalog,
new species, 562
Paederina, 562
*Paederus*, 562
review, 562
Cerambycidae,
gland pore, 637
pheromone, 637
ultrastructure, 637
*Ceraspis*,
Coleoptera, 424
key, 424
new species, 424
Scarabaeidae, 424
Cerrado,
diversity, 117
*Drosophila*, 117
forest, 117
taxonomic survey, 117
Charipinae,
*Alloxysta*, 26
Figitidae, 26
Mexico, 26
*Phaenoglyphis*, 26
check list,
description, 555
Laos, 555
taxonomy, 555
*Chilo suppressalis*,
expression pattern, 378
molecular cloning, 378
real-time quantitative polymerase chain reaction, 378
sensory neuron membrane protein, 378
Chinantla,
autoecology, 753
cloud forest, 753
conservation, 753
endemic, 753
chitinous teeth,
alimentary canal, 846
foregut, 846
stomodeal valve, 846
chorion ornamentation,
aeropyle, 13
fruit fly, 13
micropyle, 13
*Chrysodeixis includens*,
*Rachiplusia nu*, 643
*Spodoptera albula*, 643
*Spodoptera cosmioides*, 643
*Spodoptera eridania*, 643
Chrysopidae,
*Berchmansus cinctipes*, 729
Leucochrysini, 729
Neuroptera, 729
trash-carrying, 729
citrus greening disease,
Asian citrus psyllid, 392
communication, 392
citrus variegated chlorosis,
EPG, 610
feeding behavior, 610
pathogen spread, 610
sharpshooter vector, 610
cladistic analysis,
*Drosophila*, 695
*peruensis* group, 695
*repleta* group, 695
class B scavenger receptor,
*BmSCRBQ1*, 503
*Bombyx mori*, 503
*Cameo1*, 503
gene expression, 503

cloud forest,
autoecology, 753
Chinantla, 753
conservation, 753
endemic, 753
*Coccydencyrtus*,
*Encarsia*, 541
*Parasauleia*, 541
*Pteroptrix*, 541
*Thomsonisca*, 541
Coleoptera,
*Ceraspis*, 424
key, 424
new species, 424
Scarabaeidae, 424
communication,
Asian citrus psyllid, 392
citrus greening disease, 392
community,
abundance, 198
Arkansas, 198
disturbance, 198
fire, 198
conservation,
autoecology, 753
Chinantla, 753
cloud forest, 753
endemic, 753
*Conura*,
*Aprostocetus*, 818
*Baryscapus*, 818
*Gelis*, 818
*Scambus*, 818
*Coptotermes formosanus*, 454, 619
aid, 619
antagonistic bacteria, 454
*Bacillus thuringiensis*, 454
ecdysis, 619
group size, 454
molting behavior, 619
nestmate, 619
suppression, 454
Coreidae,
description, 575
life history, 575
*Narnia femorata*, 575
*Corethrella appendiculata*,
autogeny, 810
life history, 810
plasticity, 810
threshold, 810
Corioxenidae,
key, 313
taxonomy, 313
*Culicoides insignis*,
Brazil, 463
Brazilian Savannah, 463
*Culicoides paraensis*, 463
Maranhão, 463
*Culicoides paraensis*,
Brazil, 463
Brazilian Savannah, 463
*Culicoides insignis*, 463
Maranhão, 463
cultivar,
grape, 604
life cycle, 604
mealybug, 604
rootstock, 604
cultivation,
biodiversity, 100
biogeography, 100
domestication, 100
wild crop relative, 100
*Cynanchum laeve*,
*Aphis nerii*, 214
*Asclepias*, 214
cardenolide, 214
honeyvine milkweed, 214
Cynipidae,
*Andrioplecta pulverula*, 437
*Dryocosmus kuriphilus*, 437
gall wasp, 437
new species, 437

D

dehydrogenase,
laccase, 86
*Pantoea*, 86
saliva, 86
western tarnished plant bug, 86
demography,
bootstrap, 280
jackknife, 280
offspring sex ratio, 280
parasitism rate, 280
*Dendrolaelaps quadrisetus*,
bark beetle, 204
*Histiostoma*, 204
*Iponemus confusus*, 204
phoresy, 204
Dermestidae,
*Anthrenus*, 706
exuvia, 706
immature stage, 706
seta, 706
description, 555, 575
check list, 555
Coreidae, 575
Laos, 555
life history, 575
*Narnia femorata*, 575
taxonomy, 555
development, 228, 626, 788
antennal sensilla, 626
*Aphis fabae*, 228
fecundity, 228
Fulgoroidea, 626
*Laodelphax striatellus*, 626
molt, 788
morphology, 788
*Neocarus*, 788
postimaginal, 788
*Propylea quatuordecimpunctata*, 228
scanning electron microscopy, 626
temperature, 228
developmental expression,
arrestin, 359
G-protein-coupled receptor, 359
*Maruca vitrata*, 359
phylogenetic relationship, 359
developmental inhibition,
*Bombyx mori*, 122
iminoctadine, 122
intoxication, 122
*Dicranopteron*,
*Diplonevra*, 401
*Dohrniphora*, 401
humpbacked flies, 401
phylogeny, 401
*Diplonevra*,
*Dicranopteron*, 401
*Dohrniphora*, 401
humpbacked flies, 401
phylogeny, 401
Diptera, 310, 684
*Anevrina*, 310
*B. invadens*, 684
*Bactrocera dorsalis*, 684
Baltic amber, 310
invasive species, 684
new species, 310
Phoridae, 310
Tephritidae, 684
disturbance,
abundance, 198
Arkansas, 198
community, 198
fire, 198
diurnal cycle,
attraction, 136
automatic detection, 136
pheromone, 136
tephritid, 136
diversity,
Cerrado, 117
*Drosophila*, 117
forest, 117
taxonomic survey, 117
DNA barcoding,
invasive species, 143
*Operophtera bruceata occidentalis*, 143
*Operophtera brumata*, 143
winter moth, 143
*Dohrniphora*,
*Dicranopteron*, 401
*Diplonevra*, 401
humpbacked flies, 401
phylogeny, 401

domestication,
biodiversity, 100
biogeography, 100
cultivation, 100
wild crop relative, 100
*Drosophila*, 117, 695
Cerrado, 117
cladistic analysis, 695
diversity, 117
forest, 117
*peruensis* group, 695
*repleta* group, 695
taxonomic survey, 117
*Dryocosmus kuriphilus*,
*Andrioplecta pulverula*, 437
Cynipidae, 437
gall wasp, 437
new species, 437
Dyar's rule,
immature stage, 779
larval morphology, 779
pupation process, 779
scanning electron microscopy, 779

E

eastern deciduous forest,
Mississippi River delta, 598
singing insect, 598
ecdysis,
aid, 619
*Coptotermes formosanus*, 619
molting behavior, 619
nestmate, 619
emerald ash borer,
*Agrilus*, 111
biosurveillance, 111
foraging, 111
Hymenoptera, 111
*Encarsia*,
*Coccydencyrtus*, 541
*Parasauleia*, 541
*Pteroptrix*, 541
*Thomsonisca*, 541
endemic,
autoecology, 753
Chinantla, 753
cloud forest, 753
conservation, 753
endosymbiont, 329, 761
*Aphis craccivora*, 761
*Arsenophonus*, 761
honeydew, 761
mtDNA, 329
mutualism, 761
population boundary, 329
rootworm, 329
*Wolbachia* surface protein, 329
energy reserve,
antioxidant enzyme, 371
cadmium, 371
*Galleria mellonella*, 371
malondialdehyde, 371
English hawthorn,
apple maggot fly, 59
black hawthorn, 59
red hawthorn, 59
EPG, 524, 610
*Blissus*, 524
citrus variegated chlorosis, 610
feeding, 524
feeding behavior, 610
Insecta, 524
pathogen spread, 610
sharpshooter vector, 610
stylet penetration, 524
*Eurosta solidaginis*,
freeze exposure, 840
overwintering, 840
supercooling point, 840
evergreen tree,
Asia, 18
Fagaceae, 18
oak gall wasp, 18
species richness, 18
evolution,
antimicrobial, 53
microsatellite, 53
*Polistes*, 53
sociality, 53
expression pattern,
*Chilo suppressalis*, 378
molecular cloning, 378
real-time quantitative polymerase chain reaction, 378
sensory neuron membrane protein, 378
exuvia,
*Anthrenus*, 706
Dermestidae, 706
immature stage, 706
seta, 706

F

facilitation,
ant-plant interaction, 47
feeding wound, 47
*Halyomorpha halys*, 47
invasion ecology, 47
Fagaceae,
Asia, 18
evergreen tree, 18
oak gall wasp, 18
species richness, 18
Far East,
key, 673
North America, 673
taxonomy, 673
*Wenyingia*, 673
fecundity, 66, 128, 228
accessory gland, 66
*Aphis fabae*, 228
*Callosobruchus maculatus*, 128
development, 228
genetic load, 128
hatchability, 66
inbreeding depression, 128
mating behavior, 66
oviposition, 128
preovipositional period, 66
*Propylea quatuordecimpunctata*, 228
temperature, 228
feeding,
*Blissus*, 524
EPG, 524
Insecta, 524
stylet penetration, 524
feeding behavior,
citrus variegated chlorosis, 610
EPG, 610
pathogen spread, 610
sharpshooter vector, 610
feeding wound,
ant-plant interaction, 47
facilitation, 47
*Halyomorpha halys*, 47
invasion ecology, 47
Figitidae,
*Alloxysta*, 26
Charipinae, 26
Mexico, 26
*Phaenoglyphis*, 26
*Fijivirus*,
persistent propagative transmission, 93
vector–virus interaction, 93
fire,
abundance, 198
Arkansas, 198
community, 198
disturbance, 198
flower-feeding weevil,
insect–plant interaction, 491
Solanaceae, 491
*Solanum viarum*, 491
forage grass,
biological aspect, 243
predator, 243
*Sipha flava*, 243 .
Y-tube olfactometer, 243
foraging, 72, 111
*Agrilus*, 111
biosurveillance, 111
emerald ash borer, 111
Hymenoptera, 111
intraspecific competition, 72
polyandry, 72
western harvester ant, 72
foregut,
alimentary canal, 846
chitinous teeth, 846
stomodeal valve, 846

forest,
Cerrado, 117
diversity, 117
*Drosophila*, 117
taxonomic survey, 117
4-n-nonylphenol,
*Bombyx mori*, 832
glutathione, 832
glutathione peroxidase, 832
glutathione S-transferase, 832
freeze exposure,
*Eurosta solidaginis*, 840
overwintering, 840
supercooling point, 840
fruit fly, 13, 791
aeropyle, 13
biological control, 791
chorion ornamentation, 13
micropyle, 13
parasitism, 791
parasitoid, 791
fruit scraper,
Cassidinae, 164
oil palm, 164
scanning electron microscopy, 164
sex dimorphism, 164
Fulgoroidea,
antennal sensilla, 626
development, 626
*Laodelphax striatellus*, 626
scanning electron microscopy, 626

G

*Galleria mellonella*,
antioxidant enzyme, 371
cadmium, 371
energy reserve, 371
malondialdehyde, 371
gall wasp, 288, 437, 719
*Andrioplecta pulverula*, 437
biogeography, 288, 719
Cynipidae, 437
*Dryocosmus kuriphilus*, 437
new species, 437
phylogeny, 719
Rosaceae, 288, 719
Rubus, 719
*Gelis*,
*Aprostocetus*, 818
*Baryscapus*, 818
*Conura*, 818
*Scambus*, 818
gene expression,
*BmSCRBQ1*, 503
*Bombyx mori*, 503
*Cameo1*, 503
class B scavenger receptor, 503
genetic differentiation,
Andes mountain range, 586
haplotype, 586
host race, 586
tomato fruit borer, 586
genetic divergence,
adult preference, 741
geographical distribution, 741
host race, 741
larval performance, 741
genetic load,
*Callosobruchus maculatus*, 128
fecundity, 128
inbreeding depression, 128
oviposition, 128
geographical distribution,
adult preference, 741
genetic divergence, 741
host race, 741
larval performance, 741
geometric morphometrics,
apple maggot fly, 410
hybridization, 410
surstylus shape, 410
wing shape, 410
gland pore,
Cerambycidae, 637
pheromone, 637
ultrastructure, 637
glutathione,
*Bombyx mori*, 832
4-n-nonylphenol, 832
glutathione peroxidase, 832
glutathione S-transferase, 832
glutathione peroxidase,
*Bombyx mori*, 832
4-n-nonylphenol, 832
glutathione, 832
glutathione S-transferase, 832
glutathione S-transferase,
*Bombyx mori*, 832
4-n-nonylphenol, 832
glutathione, 832
glutathione peroxidase, 832
G-protein-coupled receptor,
arrestin, 359
developmental expression, 359
*Maruca vitrata*, 359
phylogenetic relationship, 359
grape,
cultivar, 604
life cycle, 604
mealybug, 604
rootstock, 604
grapevine leafroll-associated virus,
grapevine leafroll disease, 471
*Pseudococcus maritimus*, 471
seasonal phenology, 471
grapevine leafroll disease,
grapevine leafroll-associated virus, 471
*Pseudococcus maritimus*, 471
seasonal phenology, 471
group size,
antagonistic bacteria, 454
*Bacillus thuringiensis*, 454
*Coptotermes formosanus*, 454
suppression, 454

H

*Halyomorpha halys*,
ant-plant interaction, 47
facilitation, 47
feeding wound, 47
invasion ecology, 47
haplotype,
Andes mountain range, 586
genetic differentiation, 586
host race, 586
tomato fruit borer, 586
hatchability,
accessory gland, 66
fecundity, 66
mating behavior, 66
preovipositional period, 66
height,
leaf size, 447
mantid, 447
site selection, 447
vegetation, 447
Helotidae,
*attenuata* species group, 152
*Neohelota*, 152
taxonomic revision, 152
herbs,
Aphidiinae, 294
ornamental, 294
shrubs, 294
southeastern Europe, 294
Heterostigmatina,
mite, 181
natural control, 181
parasite, 181
pest, 181
*Histiostoma*,
bark beetle, 204
*Dendrolaelaps quadrisetus*, 204
*Iponemus confusus*, 204
phoresy, 204
honeydew,
*Aphis craccivora*, 761
*Arsenophonus*, 761
endosymbiont, 761
mutualism, 761
honeyvine milkweed,
*Aphis nerii*, 214
*Asclepias*, 214
cardenolide, 214
*Cynanchum laeve*, 214
horn,
male–male competition, 518
rhinoceros beetle, 518

sensillum, 518
*Trypoxylus dichotomus*, 518
host manipulation,
polysphinctine wasp, 652
spider web, 652
host race, 586, 741
adult preference, 741
Andes mountain range, 586
genetic differentiation, 586
genetic divergence, 741
geographical distribution, 741
haplotype, 586
larval performance, 741
tomato fruit borer, 586
host specialization,
aphid parasitoids, 170
*Aphis sambuci*, 170
*Longicaudus trirhodus*, 170
*Praon longicaudus* sp.n., 170
*Praon sambuci* sp.n., 170
host specificity,
bark beetle, 339
Mesostigmata, 339
Oribatida, 339
species composition, 339
humpbacked flies,
*Dicranopteron*, 401
*Diplonevra*, 401
*Dohrniphora*, 401
phylogeny, 401
hybridization,
apple maggot fly, 410
geometric morphometrics, 410
surstylus shape, 410
wing shape, 410
Hymenaphorurini,
*Kennethia pomorskii* sp. n., 42
key, 42
taxonomy, 42
Hymenoptera,
*Agrilus*, 111
biosurveillance, 111
emerald ash borer, 111
foraging, 111

I

iminoctadine,
*Bombyx mori*, 122
developmental inhibition, 122
intoxication, 122
immature stage, 706, 779
*Anthrenus*, 706
Dermestidae, 706
Dyar's rule, 779
exuvia, 706
larval morphology, 779
pupation process, 779
scanning electron microscopy, 779
seta, 706
inbreeding depression,
*Callosobruchus maculatus*, 128
fecundity, 128
genetic load, 128
oviposition, 128
Insecta,
*Blissus*, 524
EPG, 524
feeding, 524
stylet penetration, 524
insect biology,
Asopinae, 235
biological control, 235
Brassicaceae, 235
predatory stink bug, 235
insect–plant interaction,
flower-feeding weevil, 491
Solanaceae, 491
*Solanum viarum*, 491
instar,
Brooks–Dyar rule, 323
model based clustering, 323
intoxication,
*Bombyx mori*, 122
developmental inhibition, 122
iminoctadine, 122
intraspecific competition,
foraging, 72
polyandry, 72
western harvester ant, 72
invasion ecology,
ant-plant interaction, 47
facilitation, 47
feeding wound, 47
*Halyomorpha halys*, 47
invasive species, 143, 189, 684
*B. invadens*, 684
*Bactrocera dorsalis*, 684
Diptera, 684
DNA barcoding, 143
larval mortality, 189
*Operophtera bruceata occidentalis*, 143
*Operophtera brumata*, 143
phloem and wood borer, 189
phloem habitat, 189
Tephritidae, 684
winter moth, 143
*Iponemus confusus*,
bark beetle, 204
*Dendrolaelaps quadrisetus*, 204
*Histiostoma*, 204
phoresy, 204

J

jackknife,
bootstrap, 280
demography, 280
offspring sex ratio, 280
parasitism rate, 280
Japan,
*Adelges tsugae*, 249
*Laricobius osakensis*, 249
phenology, 249
synchrony, 249
*Jatropha curcas*,
antennal sensillum, 510
biofuel, 510
leaf-footed bug, 510
pest, 510

K

*Kennethia pomorskii* sp. n.,
Hymenaphorurini, 42
key, 42
taxonomy, 42
key, 42, 313, 424, 673
*Ceraspis*, 424
Coleoptera, 424
Corioxenidae, 313
Far East, 673
Hymenaphorurini, 42
*Kennethia pomorskii* sp. n., 42
new species, 424
North America, 673
Scarabaeidae, 424
taxonomy, 42, 313, 673
*Wenyingia*, 673

L

laccase,
dehydrogenase, 86
*Pantoea*, 86
saliva, 86
western tarnished plant bug, 86
*Laodelphax striatellus*,
antennal sensilla, 626
development, 626
Fulgoroidea, 626
scanning electron microscopy, 626
Laos,
check list, 555
description, 555
taxonomy, 555
*Laricobius osakensis*,
*Adelges tsugae*, 249
Japan, 249
phenology, 249
synchrony, 249
larva,
aggregation, 799
bacterium, 799
calliphorid, 799
carrion, 799
larval morphology,
Dyar's rule, 779
immature stage, 779
pupation process, 779
scanning electron microscopy, 779

larval mortality,
invasive species, 189
phloem and wood borer, 189
phloem habitat, 189
larval performance,
adult preference, 741
genetic divergence, 741
geographical distribution, 741
host race, 741
leaf-footed bug,
antennal sensillum, 510
biofuel, 510
*Jatropha curcas*, 510
pest, 510
leaf size,
height, 447
mantid, 447
site selection, 447
vegetation, 447
leishmaniasis foci,
bloodmeal, 79
Phlebotomine, 79
PNOC, 79
*Sergentomyia minuta*, 79
Leucochrysini,
*Berchmansus cinctipes*, 729
Chrysopidae, 729
Neuroptera, 729
trash-carrying, 729
life cycle,
cultivar, 604
grape, 604
mealybug, 604
rootstock, 604
life history, 575, 810
adaptation, 385
autogeny, 810
bark beetle, 385
Coreidae, 575
*Corethrella appendiculata*, 810
description, 575
mountain pine beetle, 385
*Narnia femorata*, 575
plasticity, 810
speciation, 385
threshold, 810
*Longicaudus trirhodus*,
aphid parasitoids, 170
*Aphis sambuci*, 170
host specialization, 170
*Praon longicaudus* sp.n., 170
*Praon sambuci* sp.n., 170

M

male–male competition,
horn, 518
rhinoceros beetle, 518
sensillum, 518
*Trypoxylus dichotomus*, 518
malondialdehyde,
antioxidant enzyme, 371
cadmium, 371
energy reserve, 371
*Galleria mellonella*, 371
mantid,
height, 447
leaf size, 447
site selection, 447
vegetation, 447
Maranhão,
Brazil, 463
Brazilian Savannah, 463
*Culicoides insignis*, 463
*Culicoides paraensis*, 463
*Maruca vitrata*,
arrestin, 359
developmental expression, 359
G-protein-coupled receptor, 359
phylogenetic relationship, 359
mating behavior,
accessory gland, 66
fecundity, 66
hatchability, 66
preovipositional period, 66
mealybug,
cultivar, 604
grape, 604
life cycle, 604
rootstock, 604
Mesostigmata,
bark beetle, 339
host specificity, 339
Oribatida, 339
species composition, 339
Mexico,
*Alloxysta*, 26
Charipinae, 26
Figitidae, 26
*Phaenoglyphis*, 26
microbe,
opportunist, 771
senescent colony, 771
termite, 771
trophic level, 771
micropyle,
aeropyle, 13
chorion ornamentation, 13
fruit fly, 13
microsatellite,
antimicrobial, 53
evolution, 53
*Polistes*, 53
sociality, 53
Miridae,
accessory gland, 258
remating inhibition, 258
seminal fluid, 258
ultrafiltration, 258
Mississippi River delta,
eastern deciduous forest, 598
singing insect, 598
mite,
Heterostigmatina, 181
natural control, 181
parasite, 181
pest, 181
model based clustering,
Brooks–Dyar rule, 323
instar, 323
molecular cloning,
*Chilo suppressalis*, 378
expression pattern, 378
real-time quantitative polymerase chain reaction, 378
sensory neuron membrane protein, 378
molt,
development, 788
morphology, 788
*Neocarus*, 788
postimaginal, 788
molting behavior,
aid, 619
*Coptotermes formosanus*, 619
ecdysis, 619
nestmate, 619
morphology, 1, 788
burrowing water beetle, 1
development, 788
molt, 788
*Neocarus*, 788
Neotropical, 1
postimaginal, 788
taxonomy, 1
mosquito,
*Anopheles*, 857
reproductive system, 857
spermatheca, 857
mountain pine beetle,
adaptation, 385
bark beetle, 385
life-history, 385
speciation, 385
mtDNA,
endosymbiont, 329
population boundary, 329
rootworm, 329
*Wolbachia* surface protein, 329
mutualism,
*Aphis craccivora*, 761
*Arsenophonus*, 761
endosymbiont, 761
honeydew, 761

N

*Narnia femorata*,
Coreidae, 575
description, 575
life history, 575
natural control,
Heterostigmatina, 181
mite, 181

parasite, 181
pest, 181
natural enemy,
biological control, 273
salivary gland, 273
*Supputius cincticeps*, 273
zoophytophagous, 273
*Neocarus*,
development, 788
molt, 788
morphology, 788
postimaginal, 788
*Neohelota*,
*attenuata* species group, 152
Helotidae, 152
taxonomic revision, 152
Neotropical,
burrowing water beetle, 1
morphology, 1
taxonomy, 1
Neotropical region,
Sphaeropthalmini, 429
taxonomy, 429
nestmate,
aid, 619
*Coptotermes formosanus*, 619
ecdysis, 619
molting behavior, 619
Neuroptera,
*Berchmansus cinctipes*, 729
Chrysopidae, 729
Leucochrysini, 729
trash-carrying, 729
new host association,
biological control, 351
parasitoid biology, 351
pupal parasitoid, 351
new species, 310, 424, 437, 562
*Andrioplecta pulverula*, 437
*Anevrina*, 310
Baltic amber, 310
catalog, 562
*Ceraspis*, 424
Coleoptera, 424
Cynipidae, 437
Diptera, 310
*Dryocosmus kuriphilus*, 437
gall wasp, 437
key, 424
Paederina, 562
*Paederus*, 562
Phoridae, 310
review, 562
Scarabaeidae, 424
*Nicrophorus*,
bioacoustics, 661
burying beetle, 661
sound production, 661
stridulation, 661
North America,
Far East, 673
key, 673
taxonomy, 673
*Wenyingia*, 673

O

oak gall wasp,
Asia, 18
evergreen tree, 18
Fagaceae, 18
species richness, 18
offspring sex ratio,
bootstrap, 280
demography, 280
jackknife, 280
parasitism rate, 280
oil palm,
Cassidinae, 164
fruit scraper, 164
scanning electron microscopy, 164
sex dimorphism, 164
*Operophtera bruceata occidentalis*,
DNA barcoding, 143
invasive species, 143
*Operophtera brumata*, 143
winter moth, 143
*Operophtera brumata*,
DNA barcoding, 143
invasive species, 143
*Operophtera bruceata occidentalis*, 143
winter moth, 143
opportunist,
microbe, 771
senescent colony, 771
termite, 771
trophic level, 771
Oribatida,
bark beetle, 339
host specificity, 339
Mesostigmata, 339
species composition, 339
ornamental,
Aphidiinae, 294
herbs, 294
shrubs, 294
southeastern Europe, 294
overwintering,
*Eurosta solidaginis*, 840
freeze exposure, 840
supercooling point, 840
ovigeny,
oviparous, 485
ovolarviparous, 485
pro-ovigenic, 485
synovigenic, 485
oviparous,
ovigeny, 485
ovolarviparous, 485
pro-ovigenic, 485
synovigenic, 485
oviposition,
*Callosobruchus maculatus*, 128
fecundity, 128
genetic load, 128
inbreeding depression, 128
ovolarviparous,
ovigeny, 485
oviparous, 485
pro-ovigenic, 485
synovigenic, 485

P

Paederina,
catalog, 562
new species, 562
*Paederus*, 562
review, 562
*Paederus*,
catalog, 562
new species, 562
Paederina, 562
review, 562
*Pantoea*,
dehydrogenase, 86
laccase, 86
saliva, 86
western tarnished plant bug, 86
Paraguay,
Anthophila, 853
carpenter bee, 853
*Parasauleia*,
*Coccydencyrtus*, 541
*Encarsia*, 541
*Pteroptrix*, 541
*Thomsonisca*, 541
parasite,
Heterostigmatina, 181
mite, 181
natural control, 181
pest, 181
parasitism,
biological control, 791
fruit fly, 791
parasitoid, 791
parasitism rate,
bootstrap, 280
demography, 280
jackknife, 280
offspring sex ratio, 280
parasitoid,
biological control, 791
fruit fly, 791
parasitism, 791
parasitoid biology,
biological control, 351
new host association, 351
pupal parasitoid, 351
parthenogenesis,
ant, 479
*Strumigenys hexamera*, 479
thelytoky, 479

pathogen spread,
citrus variegated chlorosis, 610
EPG, 610
feeding behavior, 610
sharpshooter vector, 610
persistent propagative transmission,
*Fijivirus*, 93
vector–virus interaction, 93
*peruensis* group,
cladistic analysis, 695
*Drosophila*, 695
*repleta* group, 695
pest, 181, 510
antennal sensillum, 510
biofuel, 510
Heterostigmatina, 181
*Jatropha curcas*, 510
leaf-footed bug, 510
mite, 181
natural control, 181
parasite, 181
*Phaenoglyphis*,
*Alloxysta*, 26
Charipinae, 26
Figitidae, 26
Mexico, 26
phenology,
*Adelges tsugae*, 249
Japan, 249
*Laricobius osakensis*, 249
synchrony, 249
pheromone, 136, 637
attraction, 136
automatic detection, 136
Cerambycidae, 637
diurnal cycle, 136
gland pore, 637
tephritid, 136
ultrastructure, 637
*Philornis seguyi*,
bot fly, 222
sexual difference, 222
*Troglodytes aedon*, 222
Phlebotomine,
bloodmeal, 79
leishmaniasis foci, 79
PNOC, 79
*Sergentomyia minuta*, 79
phloem and wood borer,
invasive species, 189
larval mortality, 189
phloem habitat, 189
phloem habitat,
invasive species, 189
larval mortality, 189
phloem and wood borer, 189
phoresy,
bark beetle, 204
*Dendrolaelaps quadrisetus*, 204
*Histiostoma*, 204
*Iponemus confusus*, 204
Phoridae,
*Anevrina*, 310
Baltic amber, 310
Diptera, 310
new species, 310
phylogenetic relationship,
arrestin, 359
developmental expression, 359
G-protein-coupled receptor, 359
*Maruca vitrata*, 359
phylogeny, 401, 719
biogeography, 719
*Dicranopteron*, 401
*Diplonevra*, 401
*Dohrniphora*, 401
gall wasp, 719
humpbacked flies, 401
Rosaceae, 719
Rubus, 719
plasticity,
autogeny, 810
*Corethrella appendiculata*, 810
life history, 810
threshold, 810
PNOC,
bloodmeal, 79
leishmaniasis foci, 79
Phlebotomine, 79
*Sergentomyia minuta*, 79
*Polistes*,
antimicrobial, 53
evolution, 53
microsatellite, 53
sociality, 53
polyandry,
foraging, 72
intraspecific competition, 72
western harvester ant, 72
polysphinctine wasp,
host manipulation, 652
spider web, 652
population boundary,
endosymbiont, 329
mtDNA, 329
rootworm, 329
*Wolbachia* surface protein, 329
postimaginal,
development, 788
molt, 788
morphology, 788
*Neocarus*, 788
*Praon longicaudus* sp.n.,
aphid parasitoids, 170
*Aphis sambuci*, 170
host specialization, 170
*Longicaudus trirhodus*, 170
*Praon sambuci* sp.n., 170
*Praon sambuci* sp.n.,
aphid parasitoids, 170
*Aphis sambuci*, 170
host specialization, 170
*Longicaudus trirhodus*, 170
*Praon longicaudus* sp.n., 170
predator,
biological aspect, 243
forage grass, 243
*Sipha flava*, 243
Y-tube olfactometer, 243
predatory stink bug,
Asopinae, 235
biological control, 235
Brassicaceae, 235
insect biology, 235
preovipositional period,
accessory gland, 66
fecundity, 66
hatchability, 66
mating behavior, 66
pro-ovigenic,
ovigeny, 485
oviparous, 485
ovolarviparous, 485
synovigenic, 485
*Propylea quatuordecimpunctata*,
*Aphis fabae*, 228
development, 228
fecundity, 228
temperature, 228
*Pseudococcus maritimus*,
grapevine leafroll-associated virus, 471
grapevine leafroll disease, 471
seasonal phenology, 471
*Pteroptrix*,
*Coccydencyrtus*, 541
*Encarsia*, 541
*Parasauleia*, 541
*Thomsonisca*, 541
pupal parasitoid,
biological control, 351
new host association, 351
parasitoid biology, 351
pupation process,
Dyar's rule, 779
immature stage, 779
larval morphology, 779
scanning electron microscopy, 779

R

*Rachiplusia nu*,
*Chrysodeixis includens*, 643
*Spodoptera albula*, 643
*Spodoptera cosmioides*, 643
*Spodoptera eridania*, 643
real-time quantitative polymerase chain reaction,
*Chilo suppressalis*, 378
expression pattern, 378
molecular cloning, 378
sensory neuron membrane protein, 378

red hawthorn,
apple maggot fly, 59
black hawthorn, 59
English hawthorn, 59
remating inhibition,
accessory gland, 258
Miridae, 258
seminal fluid, 258
ultrafiltration, 258
*repleta* group,
cladistic analysis, 695
*Drosophila*, 695
*peruensis* group, 695
reproductive system,
*Anopheles*, 857
mosquito, 857
spermatheca, 857
review,
catalog, 562
new species, 562
Paederina, 562
*Paederus*, 562
rhinoceros beetle,
horn, 518
male–male competition, 518
sensillum, 518
*Trypoxylus dichotomus*, 518
rootstock,
cultivar, 604
grape, 604
life cycle, 604
mealybug, 604
rootworm,
endosymbiont, 329
mtDNA, 329
population boundary, 329
*Wolbachia* surface protein, 329
Rosaceae, 288, 719
biogeography, 288, 719
gall wasp, 288, 719
phylogeny, 719
Rubus, 719
Rubus,
biogeography, 719
gall wasp, 719
phylogeny, 719
Rosaceae, 719

S

saliva,
dehydrogenase, 86
laccase, 86
*Pantoea*, 86
western tarnished plant bug, 86
salivary gland,
biological control, 273
natural enemy, 273
*Supputius cincticeps*, 273
zoophytophagous, 273
*Scambus*,
*Aprostocetus*, 818
*Baryscapus*, 818
*Conura*, 818
*Celis*, 818
scanning electron microscopy, 164, 626, 779
antennal sensilla, 626
Cassidinae, 164
development, 626
Dyar's rule, 779
fruit scraper, 164
Fulgoroidea, 626
immature stage, 779
*Laodelphax striatellus*, 626
larval morphology, 779
oil palm, 164
pupation process, 779
sex dimorphism, 164
Scarabaeidae,
*Ceraspis*, 424
Coleoptera, 424
key, 424
new species, 424
seasonal phenology,
grapevine leafroll-associated virus, 471
grapevine leafroll disease, 471
*Pseudococcus maritimus*, 471
seminal fluid,
accessory gland, 258
Miridae, 258
remating inhibition, 258
ultrafiltration, 258
senescent colony,
microbe, 771
opportunist, 771
termite, 771
trophic level, 771
sensillum,
horn, 518
male–male competition, 518
rhinoceros beetle, 518
*Trypoxylus dichotomus*, 518
sensory neuron membrane protein,
*Chilo suppressalis*, 378
expression pattern, 378
molecular cloning, 378
real-time quantitative polymerase chain reaction, 378
*Sergentomyia minuta*,
bloodmeal, 79
leishmaniasis foci, 79
Phlebotomine, 79
PNOC, 79
seta,
*Anthrenus*, 706
Dermestidae, 706
exuvia, 706
immature stage, 706
sex dimorphism,
Cassidinae, 164
fruit scraper, 164
oil palm, 164
scanning electron microscopy, 164
sexual difference,
bot fly, 222
*Philornis seguyi*, 222
*Troglodytes aedon*, 222
sharpshooter vector,
citrus variegated chlorosis, 610
EPG, 610
feeding behavior, 610
pathogen spread, 610
shrubs,
Aphidiinae, 294
herbs, 294
ornamental, 294
southeastern Europe, 294
silkworm,
apoptosis, 265
*BmDronc*, 265
BmE cell line, 265
caspase-9, 265
singing insect,
eastern deciduous forest, 598
Mississippi River delta, 598
*Sipha flava*,
biological aspect, 243
forage grass, 243
predator, 243
Y-tube olfactometer, 243
site selection,
height, 447
leaf size, 447
mantid, 447
vegetation, 447
sociality,
antimicrobial, 53
evolution, 53
microsatellite, 53
*Polistes*, 53
Solanaceae,
flower-feeding weevil, 491
insect–plant interaction, 491
*Solanum viarum*, 491
*Solanum viarum*,
flower-feeding weevil, 491
insect–plant interaction, 491
Solanaceae, 491
sound production,
bioacoustics, 661
burying beetle, 661
*Nicrophorus*, 661
stridulation, 661
southeastern Europe,
Aphidiinae, 294
herbs, 294
ornamental, 294
shrubs, 294

speciation,
adaptation, 385
bark beetle, 385
life-history, 385
mountain pine beetle, 385
species composition,
bark beetle, 339
host specificity, 339
Mesostigmata, 339
Oribatida, 339
species richness,
Asia, 18
evergreen tree, 18
Fagaceae, 18
oak gall wasp, 18
spermatheca,
*Anopheles*, 857
mosquito, 857
reproductive system, 857
Sphaeropthalmini,
Neotropical region, 429
taxonomy, 429
spider web,
host manipulation, 652
polysphinctine wasp, 652
*Spodoptera albula*,
*Chrysodeixis includens*, 643
*Rachiplusia nu*, 643
*Spodoptera cosmioides*, 643
*Spodoptera eridania*, 643
*Spodoptera cosmioides*,
*Chrysodeixis includens*, 643
*Rachiplusia nu*, 643
*Spodoptera albula*, 643
*Spodoptera eridania*, 643
*Spodoptera eridania*,
*Chrysodeixis includens*, 643
*Rachiplusia nu*, 643
*Spodoptera albula*, 643
*Spodoptera cosmioides*, 643
stomodeal valve,
alimentary canal, 846
chitinous teeth, 846
foregut, 846
stridulation,
bioacoustics, 661
burying beetle, 661
*Nicrophorus*, 661
sound production, 661
*Strumigenys hexamera*,
ant, 479
parthenogenesis, 479
thelytoky, 479
stylet penetration,
*Blissus*, 524
EPG, 524
feeding, 524
Insecta, 524
supercooling point,
*Eurosta solidaginis*, 840
freeze exposure, 840
overwintering, 840
suppression,
antagonistic bacteria, 454
*Bacillus thuringiensis*, 454
*Coptotermes formosanus*, 454
group size, 454
*Supputius cincticeps*,
biological control, 273
natural enemy, 273
salivary gland, 273
zoophytophagous, 273
surstylus shape,
apple maggot fly, 410
geometric morphometrics, 410
hybridization, 410
wing shape, 410
synchrony,
*Adelges tsugae*, 249
Japan, 249
*Laricobius osakensis*, 249
phenology, 249
synovigenic,
ovigeny, 485
oviparous, 485
ovolarviparous, 485
pro-ovigenic, 485

T

taxonomic revision,
*attenuata* species group, 152
Helotidae, 152
*Neohelota*, 152
taxonomic survey,
Cerrado, 117
diversity, 117
*Drosophila*, 117
forest, 117
taxonomy, 1, 42, 313, 429, 555, 673
burrowing water beetle, 1
check list, 555
Corioxenidae, 313
description, 555
Far East, 673
Hymenaphorurini, 42
*Kennethia pomorskii* sp. n., 42
key, 42, 313, 673
Laos, 555
morphology, 1
Neotropical, 1
Neotropical region, 429
North America, 673
Sphaeropthalmini, 429
*Wenyingia*, 673
temperature,
*Aphis fabae*, 228
development, 228
fecundity, 228
*Propylea quatuordecimpunctata*, 228
tephritid,
attraction, 136
automatic detection, 136
diurnal cycle, 136
pheromone, 136
Tephritidae,
*Bactrocera dorsalis*, 684
*B. invadens*, 684
Diptera, 684
invasive species, 684
termite,
microbe, 771
opportunist, 771
senescent colony, 771
trophic level, 771
thelytoky,
ant, 479
parthenogenesis, 479
*Strumigenys hexamera*, 479
*Thomsonisca*,
*Coccydencyrtus*, 541
*Encarsia*, 541
*Parasauleia*, 541
*Pteroptrix*, 541
threshold,
autogeny, 810
*Corethrella appendiculata*, 810
life history, 810
plasticity, 810
tomato fruit borer,
Andes mountain range, 586
genetic differentiation, 586
haplotype, 586
host race, 586
trash-carrying,
*Berchmansus cinctipes*, 729
Chrysopidae, 729
Leucochrysini, 729
Neuroptera, 729
*Troglodytes aedon*,
bot fly, 222
*Philornis seguyi*, 222
sexual difference, 222
trophic level,
microbe, 771
opportunist, 771
senescent colony, 771
termite, 771
*Trypoxylus dichotomus*,
horn, 518
male–male competition, 518
rhinoceros beetle, 518
sensillum, 518

U

ultrafiltration,
accessory gland, 258
Miridae, 258
remating inhibition, 258
seminal fluid, 258
ultrastructure,
Cerambycidae, 637
gland pore, 637
pheromone, 637

V
vector–virus interaction,
*Fijivirus*, 93
persistent propagative transmission, 93
vegetation,
height, 447
leaf size, 447
mantid, 447
site selection, 447

W
*Wenyingia*,
Far East, 673
key, 673
North America, 673
taxonomy, 673
western harvester ant,
foraging, 72
intraspecific competition, 72
polyandry, 72
western tarnished plant bug,
dehydrogenase, 86
laccase, 86
*Pantoea*, 86
saliva, 86
wild crop relative,
biodiversity, 100
biogeography, 100
cultivation, 100
domestication, 100
wing shape,
apple maggot fly, 410
geometric morphometrics, 410
hybridization, 410
surstylus shape, 410
winter moth,
DNA barcoding, 143
invasive species, 143
*Operophtera bruceata occidentalis*, 143
*Operophtera brumata*, 143
*Wolbachia* surface protein,
endosymbiont, 329
mtDNA, 329
population boundary, 329
rootworm, 329

Y
Y-tube olfactometer,
biological aspect, 243
forage grass, 243
predator, 243
*Sipha flava*, 243

Z
zoophytophagous,
biological control, 273
natural enemy, 273
salivary gland, 273
*Supputius cincticeps*, 273